

Creating a New Culture of Teaching and Learning

by Alan November

I want to tell you a story about something that happened to me a few days ago. I had been sanding and painting a Pine Derby racing car for several weeks with my son Danny, who is seven years old. The car looked really good. Unfortunately, I had to do a workshop on the day of the race so I couldn't be there. When I called Danny later, I found he had lost all four heats. But he sounded good so I asked him, "Are you disappointed?" He said, "No, we had the best-looking car." (It's possible that my kid is having trouble sorting out the standards!) But then there was this silence on the other end of the phone, and he said, "Dad, I'm disappointed in you." "You're disappointed in me? Why?" He said he asked the kid who won how he did it, and the kid said that his dad took him to the Internet and they found a Web site with hot racing tips on designing a car. And he claimed that's how he won -- on the Internet. I was stunned when I heard Danny say, "Dad, learning and the Internet, that's your business! Where were you?"

I'll tell you where I was. When I got the race car, I followed the directions that came on paper because I have been paper trained. I went from the top left-hand corner to the bottom right-hand corner and that's what we got. But kids are growing up digital. Their sense of boundaries of information, where to get answers, how to connect to the world -- all these are different. Even those of us who are technolusting nerds speak with an accent, but these kids don't. They just flow into it. And the high school kids don't know as much as the middle school kids. So I'm not worried about change. The kids are going to drive this, and by the time my son Danny gets to be a middle-school kid, he's going to know a lot more than I know now. I used to think I knew a lot about education. But the more I travel and the more that I see, the less I know -- which is hard to accept.

There's a light shining brightly on technology right now. This is a very exciting time to be alive and to be involved in technology and in education. But I have some concern that technology could get us into trouble in ways that we might not imagine. I want to share these concerns with you today as well as some stories about things I have seen. If I am successful, I will provoke you and make you think. I don't want to give you answers as much as to try to figure out the essential questions and to chal-

lenge what we might assume are some basic truths that no longer work.

FRAMEWORK FOR THE NEW CULTURE

There are several parts to the “framework of my learning” that I would like to offer here as points to consider in your discussions about technology.

1. IF IT’S ON THE INTERNET, IS IT TRUE?

I have learned that for many kids if it’s on the Internet, it’s true. I didn’t realize until recently that it’s also the case that for a significant group of kids, if it’s not on the Internet it’s not true. These are my assumptions now, and I’ll tell you where I got them. Increasingly, the Internet will be the media of choice for the majority of our students.

Last summer, my mother was sitting on her porch when a sixteen-year-old boy -- the next door neighbor -- came over and explained to my mother about how the Holocaust never occurred. My mother wasn’t sure how to respond to this, but she was not happy about it. She asked him, “How do you know the Holocaust didn’t occur?” He said he was doing a term paper for high school and he found this information on the Internet. So I went to the site he had investigated. It’s by a man named Arthur Butz, who describes the holocaust as a legend that has been supported by historians. He says that the concentration camps were originally designed to fight typhus and other diseases, and it was only when the supply lines were cut off by the Allies that the deaths happened. And that’s why the crematoriums existed. He provides a lot of detail, and when you read it, it seems logical.

The question is: who is this guy and what Web site is he on? Well, it turns out he’s a tenured engineering professor, and the Web site is Northwestern University. So we have a sixteen-year-old who has the technical skill to use the Internet but doesn’t have the validation skills to understand the structure of the information he finds on the Internet. Northwestern University probably means that it’s a valid site to him, and he probably doesn’t have the skill to deconstruct what he finds on the Internet.

This is a specific example of what I think we need to be teaching students. We usually want to know whether they have the technical skill to do something like getting on the Internet, but in my view, the technical skill is trivial compared to the critical thinking skills that are needed. How would that have helped in this example?

There’s a little known command that you can use on Alta Vista, the search engine, called “link.” What link does is to tell you what other sites on the Internet are hot-linked to the site you’re looking at. It gives you a backward map. The school had not taught this student about the link command, about

how to deconstruct and map out the relationships of Web sites. Because if the student had run the link on the URL, he would have found that the Maryland State Police Association has something called "The Hate Directory," and this site is listed on The Hate Directory. That might have rung a bell for this student.

Every educator should look at The Hate Directory. It's not nice, but you need to know the good and the bad. Every educator really needs to understand the dark side of the Internet in order to have a balanced conversation about it, and The Hate Directory will give you a very quick introduction to how bad it can be.

In every subject there ought to be a standard exercise of presenting students with different versions of the truth and asking them if they know how to discriminate among them because students now have access to more information than everyone in this room can possibly imagine. And the ease of using the technology can lull you into not thinking. So don't teach children to use the Internet unless you're willing to teach them to think and discriminate.

One way to teach children to really think about the Internet is to teach them to construct Web sites. This should start in second grade or whenever you think print ought to be introduced, because Web design is the equivalent in the digital world.

2. COMING ATTRACTION: LIVE VIDEOCAMERAS IN EVERY CLASSROOM

The second part of the framework is related to a question that I want you to ponder: If you have live video in every classroom at every school and any family at any give time can log on and watch the teacher teach, what do you think the impact will be on education? What will be the good and the bad things that happen if we connect our families and communities live to classrooms? Do you think every teacher will embrace this idea with equal enthusiasm? No, probably not. But it'll force teachers to constantly evaluate what they're doing, and it will change the relationships among teachers. It will promote more interaction among teachers as they look together at student work and share stories and strategies.

I'm convinced we are going to have live video cameras in many classrooms. There's no question in my mind. It's like saying, in the early '90s, that we're not going to have computers in every classroom. The next generation of technology is total video real time, the merger of the television and the computer. We can either react to it by circling the wagons and shooting inward or think about it now as a way to strengthen the relationships of learning and teaching.

Some schools and classrooms are starting to use this technology.

A kindergarten teacher in a Portland, Oregon, public school has a video camera in his classroom that is connected to the school's Web site so the parents who have computers at home can watch their kids build blocks. What this teacher is finding is that because parents can actually see the kindergarten, they're calling up and saying they want to be there. He said, "I have so many parent volunteers who want to come in that I'm overwhelmed. I have to shut the thing off."

A fifth-grade teacher in Iowa uses the video very judiciously. This teacher uses it to link one parent to one student. With this technology you can create password entry so that you give somebody a password that's only good for twenty minutes and only that person can access the video. You do have control over how the technology is used.

Another example involves student book reports. Why not introduce the family to the book report experience in live real time? Through the technology the parent can listen and see the kid. With just a standard computer with a built-in microphone, the parent can talk to the kid and can send notes. What's happening is the parent is validating the kid's work as the kid is presenting. I asked the teacher what the kids say about it, and the teacher reports that the kids are elated. How often do you have kids doing book reports who are elated about it?

3. WE NEED TO TELL OUR STORIES!

My one criticism of this profession is that we do not tell our stories well. That gets us into a lot of trouble because if we educators don't tell our stories, there are lots of other people who think they have the story and they will tell it for us. What California needs to do is to gather the stories of teachers about the work they do and then link them so that the collective knowledge and wisdom of educators has an impact. Other professions do this, but we have the loneliest, most isolated professional culture in America, a culture where the primary work of the adult happens with no other adult in the room. In fact, this is the only profession in America where the professionals got computers before they had telephones! Think about why that is true.

We need to honor the knowledge and wisdom of educators. When I go into a classroom, I am amazed by the magic of a teacher, and I say to this teacher, "This is incredible. You ought to write an article or put this up on your Web site." But the teacher says, "No, I just do this everyday. Nothing special here." Teachers don't know how special they are. They wouldn't know because they don't have a collective sense. So one of the things we absolutely need to do if we are really going to support standards is build capacity so there is a collective knowledge and wisdom.

4. DON'T DO TECHNOLOGY PLANS!

The big change that's coming is not technology -- it's relationships. Connecting people together is the big change. I testified at the White House about this, and they didn't hear this message so I'm go-

ing to tell you: there's too much focus on technology planning. The state requirement (which is really a federal requirement for the e-rate) that every school create a technology plan is in my view very unfortunate because the real revolution is about information and communications. What's flowing through the wires, what's flowing through the boxes is more important than the wires and the boxes. If you want to antagonize teachers, especially the group of them who don't embrace technology, just write a technology plan.

I'm all for planning. I want to plan, but I want to write an information communication plan because if you focus on the quality of the information and the quality of the relationships, then you can include all teachers. If you ask teachers, "What technology should we buy to improve learning?" many teachers cannot answer that question intelligently. But if you focus on information communication planning and you ask every teacher, "What information do you want? What relationships do you want?" then every teacher can participate.

I love the word "technology" – that's what I do, but if you let it go and focus instead on asking teachers about information skills and communication skills and content, you will actually end up buying more technology. So here's my recommendation: even though the feds/state requires a technology plan, call it information communication planning and ask a very different set of questions and then slap the word technology on it at the end to satisfy the requirement. Most technology plans that I see are not plans at all – they're shopping lists of stuff.

5. AUTOMATING VS. INFORMATING

There was a provocative statement that came from outside education about the use of computers in education. Did any of you read The Atlantic Monthly last July? The cover story was called "The Computer Delusion" by Todd Oppenheimer. He says, "There is no good evidence that most uses of computers significantly improve teaching and learning." And you know what? There isn't. I would like to give you my analysis of why it's not making a difference and how we could make it be a much better investment than it currently is.

I have learned about two ways to think about technology: one is called automating, the other is called informing. One will give you incremental improvement; the other will give you big improvement. Unfortunately schools and technology planning tend to focus on automating. This means that you bolt technology on top of what you're already doing. Most of the investment in education is automating. We have kids write a five-paragraph essay with a \$2,000 pencil in a word processing lab. The best improvement you can hope for if you automate is incremental. For example, if we automate report cards, the result is we have prettier report cards, but we don't improve learning.

You get very different results when you informate. The real revolution is information and communica-

tion, not technology. Let go of the word technology. If you focus on it, then you'll just do what you're already doing. The trick in planning as we move forward is to think about information systems, whole systems of the flow of information and communication.

One of the things that happens when you informate is that you create a whole new business. When you automate, you don't change the business -- you just improve the speed or comfort at an incremental level. The new business of education is building capacity in every family for learning. If we do not invest and move technologies and capacities to the home, I fear that unwittingly, unconsciously, schools will actually be contributing to the rich getting richer and the poor getting poorer.

I used to think that technology was going to be an equalizer in society and that more people would get more opportunity. I don't think that anymore. Now I think that the impact of technology is that it's an amplifier of the rich getting richer and the poor getting poorer. My concern is as we buy more and more technology for the schools, we are actually part of the problem of making the rich richer and the poor poorer because the real action is at home.

I don't think we can make up for what goes on in the home at school, but there are some things we can do. We can write an information communication community network plan. We can link all the resources of the community in one learning network. We can reconfigure our business from teaching children in isolated boxes called classrooms to building capacity in the community for learning. We need to promote this type of home schooling.

I believe that every high school should require every student to take an entire course online because that's where higher education is going. The state of Utah has a virtual high school that they designed for very remote regions of that state. Last year they gave 11,000 credits to high school kids across the Internet. Next September the state of Utah will offer its high school courses for \$50 to anyone in the world. The world is going to become linked for people who have access at home. My understanding is that you can now earn a BA online within the University of California system.

6. COLLEGIALLY IS WHAT'S NEEDED

The best thing to invest in right now is collegiality. The number one skill that teachers will need is to be team-based, collegial, sharing their knowledge and wisdom -- not thinking that "these are my students in my classroom." We have to drop that language. Collegiality, teamwork is what's needed.

Staff developers, please don't train teachers to use technology without kids. Ask every teacher to bring two or three students. The trainer trains the students, not the teacher. If you train teachers in technology, they tend to go back and do what they always did -- they will automate. What we need to

do is show models of kids solving powerful problems beyond anything we've ever done and the only way to do that is in context. Tell the teachers, "This is not about technology. It's about understanding the impact of technology on how students learn." Please don't teach teachers after school in a computer lab without students. It can be counterproductive.

I'm serious about the need to honor the knowledge and wisdom of educator. I'm convinced that by opening up our previously closed system we will have more respect, we will get more resources, and we'll have greater impact on helping families understand learning. I'm equally convinced that the real issue isn't technology, but rather it's information, communication, and community relationships. I would first ask teachers, "What relationships do you want to have?" Then I would ask, "What technology do you want to have?" And the irony is that we'll end up with more technology, not less.